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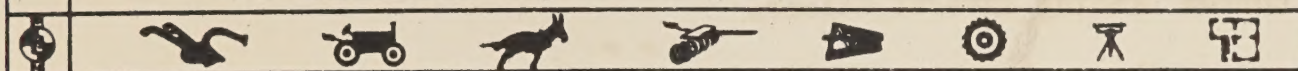
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No. 4.

Mr. McCrory left Washington to attend the Chicago meeting of the A.S.A.E. November 28 to December 2, at which he presented a short talk on his European experiences. From Chicago he went to Seattle, Wash. to confer with Dr. Diehl of the Bureau of Chemistry and Soils, thence to Corvallis, Ore. to discuss with Mr. Hurst the new flax project. He visited the Berkeley office of the Irrigation Division and conferred with Mr. Chase of the Bureau of Chemistry and Soils at Los Angeles. On his return trip he stopped at Vicksburg, Miss. to see O.M. Page who is carrying on a land appraisal project in the Lower Mississippi Valley.

The meeting of the A.S.A.E. at Chicago, November 28 to December 2, was attended by 448 registered delegates, a record attendance at a fall meeting. All officers, members of the council and all chairmen and vice chairmen of the five divisions were present as well as six of the seven immediate past presidents who comprise the awards committee. The following papers by members of the Bureau were presented:

Observations of Agricultural Engineering Interest from
a European Tour. By S. H. McCrory.

Aims and Objectives of Small Water Facilities Program.
By W. W. McLaughlin.

Supplemental Irrigation on the Atlantic Coast.
By F.E. Staebner.

Predicting Moisture Content of Ear Corn from Weather Data.
By W. R. Swanson.

Methods of Drying Grain on the Farm. By C. F. Kelly.

Soil Pressures and Temperatures with Grass Silage.
By J. R. McCalmont.

Equipment for Maintaining Small Drainage Channels.
By D. A. Isler.

Hydraulic Factors in Drainage Channels. By J.G. Sutton.

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S. P. Lyle, formerly Extension Agricultural Engineer of the Bureau, has been placed in charge of the new Rural Electrification Investigations. Harry L. Garver, Agricultural Engineer, has recently been appointed to assist Mr. Lyle. Mr. Garver is a graduate of the State College of Washington in Electrical Engineering and also in Hydro-electrical Engineering. He also took a year of graduate work in rural electrification at the University of California. Most of the time since graduation he has been identified with the work of the Washington Committee on the Relation of Electricity to Agriculture.

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Charles A. Bennett was in Washington the first of the month conferring with Bureau officials on patents and other aspects of the Cotton Ginning Investigations.

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The engineering staff of the Cotton Ginning Laboratories, Stoneville, Miss., is receiving inquiries on engineering problems and new gin installations. An unprecedented number of gin fires throughout the cotton belt have paved the way for the construction of new ginneries modernized along the lines recommended by the Laboratories.

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A 40 x 112 foot steel building for further cotton ginning research is now under construction at Stoneville, funds coming from PWA and WPA allotments. The 3-story office and fiber laboratories building, unfinished in parts for several years, is receiving final plastering. A new physics laboratory is taking form there. W. H. Kliever, working under Chas. A. Bennett, will be in charge of it.

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Compress cuts of cotton bales has been the subject of a preliminary study by W. H. Kliever of this Bureau and Chas. S. Shaw of the Bureau of Agricultural Economics. Three hundred and sixty bales were observed for number and severity of cuts, weight, density of compression, speed of compression, and moisture, grade and staple of the cotton.

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Cotton-gin fan tests are progressing favorably at the laboratories. Air tests and cotton handling tests by V. L. Stedronsky and T. L. Baggett measure efficiencies and capacities of various types now on the market and of many new designs. The higher efficiencies shown to be possible will be of much interest to the cotton industry.

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Lewis A. Jones spent the week of November 28 at Chicago attending a meeting of the CCC District Engineers and Inspectors in connection with the general supervision of the work. The planning of the work was reviewed and a detailed outline prepared. Representatives of the SCS attended the meeting and outlined the procedure under which the drainage camps will be absorbed by the Soil Conservation Service after January 2, 1939.

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On December 8 and 9, Messrs Staebner and Jones travelled to Reedsville, W. Va., with Mr. Mace of the Farm Security Administration to inspect existing drainage conditions and make recommendations for a proposed extension of drainage at the Arthurdale Project of the Farm Security Administration.

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John G. Sutton has prepared a series of drainage curves for use in determining run-off coefficient in the middle western states.

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The CCC drainage camps report the following work accomplished in November: 4,637,758 square yards of clearing; 1,684,330 cubic yards of excavation and embankment; 31,993 lineal feet of tile reconditioning and 15,687 man-days on structural and miscellaneous maintenance work, using a total of 110,936 man days.

Operations will have to be materially reduced during the winter months because of budgetary limitations. Government owned draglines are being closed down and no new loaned-dragline agreements will be approved until sufficient funds become available.

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As a continuation of his work as Engineering Advisor of the International Boundary Commission, Fred C. Scobey made a study of the hydrometry work on the Rio Grande from El Paso to the mouth of the river below Brownsville, Texas. Also, as a member of an engineering board, he made a study of the rectification of Rio Grande from El Paso to Quitman Canyon, which had shortened the river from 155 miles to 88 miles in the reach mentioned. The purpose of this rectification was to increase the gradient of the stream so that sand will not be deposited at low water and raise the river bed. Because of such deposits small floods originating below Elephant Butte Reservoir create more hazard than existed before the construction of that reservoir. This rectification has been very effective in reducing the general level of the river bed. The purpose of the November meeting of the Engineering Board was to decide upon the location and type of drops to install, so that floods of 5,000 to 10,000 second-feet will not concentrate in the Pilot Channel but will flow in the whole prism provided between set-back levees.

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J. C. Marr completed the manuscript for a bulletin on "Principles and Practice of Snow Surveying." Studies were made by Messrs. Marr and Jessup of correlation of snow measurements with runoff in the various drainage basins where observations of snow cover have been made. R.A. Work reviewed snow course sketches and brought them up to date by adding required changes or corrections as determined last summer. He also established satisfactory short wave radio communication between Medford, Oreg. and Lassen Volcanic National Park, Calif. A conference of cooperators in the snow survey project was called by Paul A. Ewing at Redding, Calif., on November 3, at which time plans were discussed for the winter sports broadcasts. R.L. Parshall called a conference in Denver on November 22, where representatives of the Forest Service, Weather Bureau, Bureau of Reclamation, State Engineer's office, National Park Service, and our Bureau were present. Arrangements for handling this coming season's snow survey work in Colorado and Wyoming were discussed in detail. Plans are being made to provide a winter sports program starting December 16 and ending about April 1, which will be broadcast over Station KOA, Denver, each Friday afternoon.

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Paul A. Ewing completed the field work on the agricultural survey of San Fernando Valley, Calif., and is now preparing the report of this

study. Dean W. Bloodgood and Homer J. Stockwell continued tabulation of data secured from the Van Nuys office of the Los Angeles Water Department on use of water for various crops in the Valley for the past 6 years. Mr. Bloodgood prepared an enlargement of a soil map showing soil classification of the soils of the Valley, bringing up to date the information presented and also indicating areas that might be used for future soil moisture investigations.

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Carl Rohwer reports that work on that part of the dam and spillway for the Southern Great Plains Station of the Bureau of Plant Industry, at Woodward, Okla., included in the original contract was completed by the contractor on November 10. During the five months the dam has been under construction, Mr. Rohwer has acted as the representative of the Government to oversee the work, and has personally supervised some phases of construction. Mr. Rohwer has returned to Fort Collins.

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Tests of the sand trap model conducted at the Bellvue laboratory at Fort Collins, Colo., by R. L. Parshall, indicate as high as 90 percent efficiency under certain conditions of flow. Sufficient knowledge of this device has now been obtained to warrant the proposal of the design for the full-sized structure for the New York Canal of the Boise irrigation project.

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Dean C. Muckel assembled data for the Los Angeles River flood control report for the National Resources Committee. Tables were made showing the amount of water spread each month by the City of Los Angeles on the Tujunga grounds in San Fernando Valley, also the amount of water imported annually into the area by means of the Owens River Aqueduct. Tracings were made showing hydrographs of wells in the Los Angeles River basin. Annual reports of the Los Angeles Department of Water and Supply were inspected for data which might be included in the report.

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Colin A. Taylor gave an informal talk before the Lemon Men's Club, in Los Angeles, on November 2, on the subject of the broad furrow method of irrigation. Much interest was manifested in this method. Several tests were made on the new four-furrow machine built for the City of Los Angeles for work in San Fernando Valley. Tests were also made for stabilizing a single V so that it could be pulled by one horse, this being accomplished by adding weighted wheels at the rear corners of the V. Tests have now been completed on all methods of making the broad furrows, from heavy duty tractor outfits making four furrows in one trip per row down to single V's pulled by one animal. All of the field work has been discontinued for the present and the material developed is being prepared for inclusion in a bulletin prepared by Mr. Taylor on "A Study of Irrigation Problems in Citrus Orchards."

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R. M. Merrill returned to Auburn, Ala., December 16, from a two-weeks trip to the middle west where he attended the winter meeting of the A.S.A.E. at Chicago, and conferred with representatives of several tillage machinery manufacturers relative to the work at the Farm Tillage Machinery Laboratory. Enroute to Auburn he stopped at Toledo and conferred with Mr. Ironson on pest control matters. While there he learned

that the sweet corn growers of that section had called a meeting to discuss ways and means of combatting the corn borer, the damage of which was particularly bad the past season.

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A report on the Bureau's cooperative fertilizer placement studies with the white pea bean in Michigan covering a period of four years was recently published in Michigan Special Bulletin 296 "Fertilizer for White Pea Beans". It was concluded that placement of 75 pounds of fertilizer per acre in the furrow with the seed - a farm practice - not only failed to produce increases in yield but caused reductions in germination of the seed. The most promising placement with 300 pounds of fertilizer per acre were either a band 1.5 inches directly under the seed or a band at a similar depth but 1.5 inches to the side of the row.

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S. W. McBirney reports that the Northern California Sugar Beet Conference which will be attended by sugar company representatives, research workers and others, will take place at San Francisco on Dec. 17. Included on the program will be a report on the work of the sugar beet machinery project being carried on at Davis.

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Members of the Division of Structures attending the meeting of the A.S.A.E. at Chicago, included, in addition to those who delivered papers, Wallace Ashby, A. D. Edgar, Thayer Cleaver, and T. F. Wettstein, Jr. J. R. McCalmont also presented the paper on the silo pressure studies at the meeting of the National Association of Silo Manufacturers on Nov. 28, which was attended by silo manufacturers from all sections of the midwest and eastern parts of the country. Great interest was shown in the silo problems created by a change in farm practices in many areas of the use of grass and legume crops for silage. Professor J. W. Bartlett of New Jersey Experiment Station, Charles F. Rogers, Biochemist of the University of Minnesota, Professor Savage of Cornell University, Professor A. E. Perkins of the Ohio Experiment Station and G. B. Hanson of the Portland Cement Association gave papers discussing various phases of the problem. There was considerable discussion of the need for more reinforcing to prevent leakage in the silos, since silage juices readily attack concrete building units where particular attention has not been given to making them acid-proof. Professor Rogers mentioned the work being carried on by D. G. Miller for the Bureau in cooperation with the University of Minnesota on the effect of dilute acids on concrete silo staves and invited those who would be able to do so to attend the A.S.A.E. meeting at St. Paul in June to see the work that is being done there. After the Chicago meeting Mr. Ashby visited University Farm and had an appointment to see Mr. Miller's set-up for measuring the corrosive effect of acetic and lactic acid solutions upon silo staves over definite periods of time.

After the A.S.A.E. Meeting, Messrs. Ashby, Barre, Kelly and Swanson inspected the corn and wheat storage projects at Urbana and discussed plans for future work with Professor Foster and Mr. Cleaver.

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While at Urbana, Mr. Ashby visited the Soybean Investigations Laboratory where Mr. Lewis and Dr. Markley showed him soybean oil paints prepared for experimental use in protecting canvas from the weather. Arrangements have been made to use these paints on the experimental canvas covered buildings at Beltsville where these treatments will be compared with other types of paint.

Later Mr. Ashby and Mr. J. P. Ditchman, Chairman of the Rural Lighting Committee of the Illuminating Engineering Society, visited Madison, to make arrangements with Mr. La Rock and the cooperators in the housing project to take pictures to be used as illustrations in the bulletin on "Light for the Farmstead", that is being prepared in cooperation with the Bureau of Home Economics and the Illuminating Engineering Society.

W. B. Hukill left on December 13 for Athens, Ga., where he will assist Messrs Simons and Lanham in planning a publication based on the data obtained from the farmhouse comfort investigations which are being conducted there.

Preliminary reports indicate that some very interesting information has been obtained which should be of considerable value in planning and constructing farm homes in the Southern States.

A. H. Senner presented a brief talk on "The Technical Aspects of Oil Burning" before the John Hopkins University Chapter of the American Institute of Chemical Engineers at Johns Hopkins University on Dec. 14.

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Publications Issued:

"Report of the Chief of the Bureau of Agricultural Engineering" for the year ending June 30, 1938.

Circular 488. "Developments in Mechanical Equipment and Methods in Sugar-Beet Production". By E. M. Mervine and S. W. McBirney.

Farmers Bulletin 1816 "Mechanizing the Corn Harvest", By Claude K. Shedd and Edgar V. Collins.

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